

REMARKS/ARGUMENTS

This paper is submitted in response to the Final Office Action dated October 3, 2007. In the Office Action, the Examiner rejected claims 1-4, 6, 8, 9, 13, 14 and 22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,565,840 to Thorner *et al.* (hereinafter “Thorner”). Claims 10-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thorner. Claims 15-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thorner in view of U.S. Patent No. 6,135,450 to Huang *et al.* (hereinafter “Huang”). Claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Thorner in view of U.S. Patent No. 4,553,748 to Allen *et al.* (hereinafter “Allen”). These issues are addressed herein.

Claim 14 has been amended to correct an antecedent basis error. Claim 22 has been amended to clarify that the electrical pulses are delivered to the player. Favorable consideration is respectfully requested.

I. § 102(b) Rejection of Claims 1-4, 6, 8, 9, 13, 14 and 22

The Examiner rejected claims 1-4, 6, 8, 9, 13, 14 and 22 under 35 U.S.C. § 102(b) as being anticipated by Thorner. This rejection is respectfully traversed.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP § 2131 (*citing Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Id.* (*citing Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). In addition, “the reference must be enabling and describe the applicant’s claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention.” *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

In the present case, independent claim 1 was previously amended to recite a “wearable electrode unit” and that “electrical pulses” are delivered to the player. This claim element differs from the Thorner reference which deals only with a vibratory feedback device (tactile feedback).

Further, to the extent that Thorner may teach the use of “electrodes,” such electrodes are not used to deliver electrical stimulation signals to the player, as required by these claims.

Contrary to the Examiner’s rejections, Applicant respectfully submits that Thorner fails to teach a feedback assembly for computer games comprising *at least one wearable electrode unit* for delivering stimulation signals *in the form of electrical pulses to stimulate muscles of part of a player’s body* ... in response to activation signals received from a computer gaming device at predetermined times to represent events occurring in the activity involving the player.

The use of at least one wearable electrode unit for delivering electrical pulses in the claimed invention can be distinguished from Thorner’s teaching of utilizing piezo-electric actuators to generate tactile sensations. Specifically, the use of piezo-electric actuators produces a mechanical output in response to the application of electrical energy.

The piezo-electric effect is a phenomenon observed in certain materials such as crystals and ceramics, which exhibit particular characteristics allowing them to develop electrical charge in response to mechanical stress and/or strain. A piezo-electric actuator makes use of the reverse of this concept. That is, an electrical potential is applied to a piezo-electric material thereby to cause deformation of the material. As very high voltages correspond to only tiny changes in the width of a piezo-electric crystal, this width can be changed with better-than-micrometer precision, making piezo-electric crystals the most important tool for positioning objects with extreme accuracy — thus their use in actuators.

It is important to recognize that a piezo-electric actuator is in no way capable of delivering an electrical pulse. Such actuators receive electricity as an **input** and create a mechanical output.

It should be appreciated from this that a piezo-electric actuator delivers a mechanical output, rather than an electrical output. Therefore, Thorner only teaches actuators that generate *tactile* sensations in response to electrical signals received from an interface circuit. The tactile sensations in this instance, allows a player executing the computer game to experience virtual reality attacks in the form of the *mechanical* movement produced by the piezo-electric actuators. Such mechanical movement can in no way stimulate muscles of part of a player’s body.

The teachings of Thorner differs significantly from the use of electrodes to deliver stimulation signals in the form of *electrical pulses* to stimulate *muscles* of part of a player's body. Specifically, the stimulation of a player's muscles distinguishes the present invention from Thorner, which merely teaches that a player can experience virtual reality attacks from the *mechanical movement* of actuators.

In the present invention, the electrical pulses produced from the electrodes penetrate to the muscular level of the player, allowing a player's muscles to contract in response to attacks, rather than having a player merely feel the mechanical movement of actuators. On the other hand, a piezo-electric actuator is not able to deliver stimulation signals *in the form of electrical pulses to stimulate muscles of part of a player's body*.

For the above reasons, Applicant respectfully submits that although Thorner discloses the notion of allowing players of computer games to experience virtual reality attacks, the teachings for doing so are certainly distinguishable from the teachings of the present invention which allows players to experience virtual reality attacks in the form of electrical pulses.

Accordingly, as all of the claim elements of claim 1 are not found in Thorner, this reference does not anticipate claim 1. Withdrawal of this rejection is respectfully requested.

Pending claims 2-4, 6, 8-9, and 13-14 all depend, directly or indirectly from claim 1. Accordingly, these claims are allowable for the same reasons outlined above in connection with claim 1. Withdrawal of this rejection is respectfully requested.

Claim 22 has been amended to clarify that "the electrical pulses are delivered to the player...." As discussed above Thorner does not deliver electrical pulses to the player, but rather delivers a mechanical, vibratory sensation to the player. As a result, claim 22 is allowable for the same reasons outlined in connection with claim 1. Withdrawal of this rejection is respectfully requested.

II. § 103(a) Rejection of Claims 10-12

The Examiner rejected claims 10-12 under 35 U.S.C. § 103(a) as being unpatentable over Thorner. This rejection is respectfully traversed.

In order to sustain a rejection under § 103(a), all claim elements must be taught or suggested by the prior art references. *See MPEP § 2143.* In the present case, claims 10-12 depend from claim 1. Accordingly, these claims recite a “wearable electrode unit” and that “electrical pulses” are delivered to the player via an electrode. As noted above, such concepts are not taught by Thorner. Accordingly, the rejection of these claims should be withdrawn.

III. § 103(a) Rejection of Claims 15-20

The Examiner rejected claims 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Thorner in view of Huang. This rejection is respectfully traversed.

As explained above, a rejection under § 103(a) requires that all claim elements be taught or suggested by the prior art references. *See MPEP § 2143.* In the present case, claims 15-20 depend from claim 1. Accordingly, these claims recite a “wearable electrode unit” and that “electrical pulses” are delivered to the player via an electrode. As noted above, such concepts are not taught by Thorner. Huang also fails to teach such concepts. Accordingly, the rejection of these claims should be withdrawn.

IV. § 103(a) Rejection of Claim 21

The Examiner rejected claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Thorner in view of Allen. This rejection is respectfully traversed.

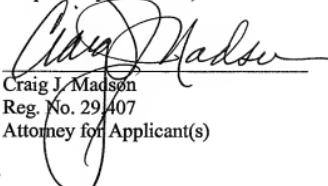
Again, a rejection under § 103(a) requires that all claim elements be taught or suggested by the prior art references. *See MPEP § 2143.* Claim 21 depends from claim 1. Accordingly, claim 21 recites a “wearable electrode unit” and that “electrical pulses” are delivered to the player via an electrode. As noted above, such concepts are not taught by Thorner. Allen also fails to teach such concepts. Accordingly, the rejection of claim 21 should be withdrawn.

IV. Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If there are any remaining issues preventing allowance of the pending claims that may be clarified by telephone, the Examiner is requested to call the undersigned.

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Respectfully submitted,


Craig J. Madson
Reg. No. 294407
Attorney for Applicant(s)

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MADSON & AUSTIN
15 West South Temple, Suite 900
Salt Lake City, Utah 84101
Telephone: 801/537-1700

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